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1 *****
*   U.S. Environmental Protection Agency   *
*   Storm Water Management Model (SWMM)   *
*   Version 4.40 (Lahey, CDM beta)        *
*****

      Developed by

*****
*   Metcalf & Eddy, Inc.                  *
*   University of Florida                  *
*   Water Resources Engineers, Inc.        *
*   (Now Camp, Dresser and McKee, Inc.)   *
*   September 1970                        *
*****

      Distributed and Maintained by

*****
*   U.S. Environmental Protection Agency   *
*   Center for Exposure Assessment Modeling (CEAM)*
*   Athens Environmental Research Laboratory *
*   960 College Station Road              *
*   Athens, GA 30605-2720                 *
*****

*****
*   This is a new release of SWMM. If any  *
*   problems occur executing this model    *
*   system, contact Mr. Frank Stancil,     *
*   U.S. Environmental Protection Agency.   *
*   706/355-8328 (voice)                  *
*   e-mail: stancil@athens.ath.epa.gov     *
*   Or contact Wayne C. Huber at Oregon St. U.*
*   541/737-6150 or huberw@ccmail.orst.edu *
*   Or Michael F. Schmidt at Camp Dresser & *
*   McKee (904) 281-0170 SCHMIDTMF@CDM.COM *
*****

*****
*   This is an implementation of EPA SWMM 4.40. *
*   "Nature is full of infinite causes which *
*   have never occurred in experience" da Vinci *
*****

#####
#   File names by SWMM Block               #
#   JIN   -> Input to a Block              #
#   JOUT  -> Output from a Block           #
#####

JIN for Block #    1 File #    0 JIN.UF
JOUT for Block #    1 File #   31 JOT.UF
JIN for Block #    2 File #   31 JOT.UF
JOUT for Block #    2 File #    0 JOT.UF

#####
# Scratch file names for this simulation. #

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NSCRAT #    1 File #    21 SCRT1.UF
NSCRAT #    2 File #    22 SCRT2.UF
NSCRAT #    3 File #    23 SCRT3.UF
NSCRAT #    4 File #    24 SCRT4.UF
NSCRAT #    5 File #    25 SCRT5.UF
NSCRAT #    6 File #    26 SCRT6.UF

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*****
*   Parameter Values on the Tapes Common Block   *
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Number of Subcatchments in the Runoff Block (NW)..... 1000
Number of Channel/Pipes in the Runoff Block (NG)..... 1000
Number of Connections to Runoff Channels/Inlets (NCP).    6
Number of Runoff Water Quality Constituents (NRQ)..... 10
Number of Runoff Land Uses per Subcatchment (NLU)..... 10
Number of Groundwater Subcatchments in Runoff (NGW)... 100
Number of Interface Locations for all Blocks (NIE).... 1000
Number of Elements in the Transport Block (NET)..... 300
Number of Storage Junctions in Transport (NTSE)..... 100
Number of Input Hydrographs in Transport (NTH)..... 80
Number of Tabular Flow Splitters in Transport (NTSP).. 50
Number of Elements in the Extran Block (NEE)..... 1400
Number of Pumps in Extran (NEP)..... 75
Number of Orifices in Extran (NEO)..... 200
Number of Tide Gates/Free Outfalls in Extran (NTG).... 200
Number of Extran Weirs (NEW)..... 60
Number of Extran Printout Locations (NPO)..... 30
Number of Tide Elements in Extran (NTE)..... 20
Number of Natural Channels (NNC)..... 200
Number of Storage Junctions in Extran (NVSE)..... 300
Number of Time History Data Points in Extran (NTVAL).. 500
Number of Data Points for Variable Storage Elements
  in the Extran Block (NVST)..... 25
Number of Input Hydrographs in Extran (NEH)..... 400
Number of Allowable Channel Connections to
  Junctions in the Extran Block (NCHN)..... 15
Number Rain Gages in Rain and Runoff (MAXRG)..... 200
Number PRATE/VRATE Points for Extran Pump
  Input (MAXPRA)..... 10
Number of Variable Orifices in Extran (NVORF)..... 50
Number of Variable Orifice Data Points (NVOTIM)..... 50
Number of Allowable Precip. Values/yr in Rain (LIMRN). 5000
Number of Storm Events for Rain Analysis (LSTORM)..... 5000
Number of Plugs for Plug-flow in S/T (NPLUG)..... 3000
Number Conduits for Extran Results to ASCII
  File (MXFLOW)..... 150

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#####
# Entry made to the Runoff Block, last updated by #
# Oregon State University, CDM, and XP Software,  #
# July 1997.                                     #
#####
# "And wherever water goes, amoebae go along for  #
# the ride"                                       Tom Robbins  #

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#####

APPLICATION OF STORM WATER MANAGEMENT MODEL (SWMM)

POWELLS CREEK SIMULATION

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Snowmelt parameter - ISNOW..... 0
Number of rain gages - NRGAG..... 1
Horton infiltration equation used - INFILM..... 0
Quality is not simulated - KWALTY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 3
Minute of hour at start of storm - NMN..... 0
Time TZERO at start of storm (hours)..... 3.000
Use Metric units for I/O - METRIC..... 1
  ==> Ft-sec units used in all internal computations
Runoff input print control... 0
Runoff graph plot control.... 0
Runoff output print control.. 2
Limit number of groundwater convergence messages to 10000 (if simulated)
Month, day, year of start of storm is: 4/23/89
Wet time step length (seconds)..... 15.
Dry time step length (seconds)..... 240.
Wet/Dry time step length (seconds)... 120.
Simulation length is..... 1200.0 Minutes
Percent of impervious area with zero detention depth 25.0
Horton infiltration model being used
Rate for regeneration of infiltration = REGEN * DECAY
DECAY is read in for each subcatchment
REGEN = ..... 0.01000
1

Rainfall from E3 Data Group
KTYPE - Rainfall input type..... 0

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NHISTO - Total number of rainfall values.. 330
 KINC - Rainfall values (pairs) per line. 10
 KPRINT - Print rainfall (0=Yes,1-No)..... 0
 KTIME - Precipitation time units
 0 --> Minutes 1 --> Hours..... 0
 KPREP - Precipitation unit type
 0 --> Intensity 1 --> Volume..... 0
 KTHIS - Variable rainfall intervals
 0 --> No, > 1 --> Yes..... 0
 THISTO - Rainfall time interval..... 2.00
 TZRAIN - Starting time (KTIME units)..... 180.00

Rainfall printout for gage number.... 1

Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)	Time(mn)/Rain(mm/hr)
0.00/0.0000	2.00/0.0000	4.00/0.0000	6.00/0.0000	8.00/2.3000			
10.00/0.0000	12.00/0.0000	14.00/0.0000	16.00/0.0000	18.00/0.0000			
20.00/0.0000	22.00/0.0000	24.00/0.5000	26.00/65.0000	28.00/0.0000			
30.00/5.5000	32.00/0.0000	34.00/0.0000	36.00/0.0000	38.00/0.0000			
40.00/0.0000	42.00/0.0000	44.00/0.0000	46.00/0.0000	48.00/0.0000			
50.00/0.0000	52.00/0.0000	54.00/0.0000	56.00/1.5000	58.00/0.0000			
60.00/0.0000	62.00/0.0000	64.00/0.0000	66.00/0.0000	68.00/0.0000			
70.00/0.0000	72.00/0.0000	74.00/0.0000	76.00/0.0000	78.00/3.8000			
80.00/0.0000	82.00/0.0000	84.00/0.0000	86.00/0.0000	88.00/0.0000			
90.00/0.0000	92.00/0.0000	94.00/0.0000	96.00/0.0000	98.00/0.0000			
100.00/0.0000	102.00/0.0000	104.00/0.0000	106.00/0.0000	108.00/0.0000			
110.00/0.0000	112.00/0.0000	114.00/0.0000	116.00/0.0000	118.00/0.0000			
120.00/0.0000	122.00/0.0000	124.00/0.0000	126.00/0.0000	128.00/0.0000			
130.00/0.0000	132.00/0.0000	134.00/0.9000	136.00/0.0000	138.00/7.1000			
140.00/0.0000	142.00/0.0000	144.00/0.0000	146.00/0.0000	148.00/1.7000			
150.00/0.0000	152.00/0.0000	154.00/0.0000	156.00/0.0000	158.00/0.0000			
160.00/0.0000	162.00/0.0000	164.00/0.0000	166.00/0.0000	168.00/0.0000			
170.00/0.0000	172.00/0.0000	174.00/0.0000	176.00/0.0000	178.00/0.0000			
180.00/0.0000	182.00/0.0000	184.00/1.4000	186.00/0.0000	188.00/0.0000			
190.00/0.4000	192.00/0.0000	194.00/0.0000	196.00/3.1000	198.00/0.0000			
200.00/0.0000	202.00/0.0000	204.00/0.0000	206.00/0.0000	208.00/0.0000			
210.00/0.0000	212.00/0.0000	214.00/0.0000	216.00/0.0000	218.00/0.0000			
220.00/0.0000	222.00/0.0000	224.00/0.0000	226.00/0.0000	228.00/0.0000			
230.00/0.0000	232.00/0.0000	234.00/0.0000	236.00/0.0000	238.00/0.0000			
240.00/0.6000	242.00/12.3000	244.00/0.0000	246.00/4.9000	248.00/0.0000			
250.00/1.5000	252.00/0.0000	254.00/6.8000	256.00/0.0000	258.00/0.0000			
260.00/0.0000	262.00/6.2000	264.00/0.0000	266.00/0.0000	268.00/0.0000			
270.00/2.2000	272.00/0.0000	274.00/0.0000	276.00/0.0000	278.00/1.6000			
280.00/11.2000	282.00/3.6000	284.00/0.0000	286.00/2.4000	288.00/0.0000			
290.00/0.0000	292.00/0.0000	294.00/0.0000	296.00/0.0000	298.00/0.0000			
300.00/0.0000	302.00/1.2000	304.00/0.0000	306.00/0.0000	308.00/2.3000			
310.00/2.6000	312.00/0.0000	314.00/6.2000	316.00/6.9000	318.00/4.3000			
320.00/0.0000	322.00/0.0000	324.00/2.4000	326.00/0.0000	328.00/0.0000			
330.00/0.0000	332.00/0.0000	334.00/0.0000	336.00/1.7000	338.00/1.0000			
340.00/0.0000	342.00/9.5000	344.00/0.0000	346.00/1.9000	348.00/0.0000			
350.00/0.0000	352.00/1.0000	354.00/0.0000	356.00/0.0000	358.00/0.1000			
360.00/2.2000	362.00/0.0000	364.00/2.4000	366.00/0.0000	368.00/0.0000			
370.00/0.5000	372.00/0.0000	374.00/2.0000	376.00/0.0000	378.00/0.0000			
380.00/3.3000	382.00/2.2000	384.00/0.0000	386.00/0.0000	388.00/0.0000			
390.00/9.5000	392.00/0.8000	394.00/0.0000	396.00/7.5000	398.00/0.0000			
400.00/0.0000	402.00/0.0000	404.00/2.7000	406.00/0.0000	408.00/4.4000			
410.00/0.0000	412.00/0.0000	414.00/0.0000	416.00/0.0000	418.00/0.0000			
420.00/10.8000	422.00/0.6000	424.00/14.5000	426.00/0.0000	428.00/12.1000			
430.00/36.9000	432.00/25.7000	434.00/37.0000	436.00/0.0000	438.00/30.4000			

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Ass2_wch.out
440.00/ 0.0000 442.00/ 0.0000 444.00/ 23.9000 446.00/ 0.0000 448.00/ 50.0000
450.00/ 11.9000 452.00/ 4.0000 454.00/ 12.4000 456.00/ 37.9000 458.00/ 20.7000
460.00/ 0.0000 462.00/ 0.0000 464.00/ 4.4000 466.00/ 0.0000 468.00/ 1.9000
470.00/ 3.1000 472.00/ 0.0000 474.00/ 4.6000 476.00/ 0.0000 478.00/ 4.5000
480.00/ 0.0000 482.00/ 0.0000 484.00/ 4.0000 486.00/ 0.0000 488.00/ 0.0000
490.00/ 5.3000 492.00/ 0.0000 494.00/ 7.3000 496.00/ 9.7000 498.00/ 0.0000
500.00/ 0.0000 502.00/ 7.0000 504.00/ 0.0000 506.00/ 5.6000 508.00/ 9.9000
510.00/ 0.0000 512.00/ 9.2000 514.00/ 0.0000 516.00/ 0.0000 518.00/ 5.8000
520.00/ 8.0000 522.00/ 0.0000 524.00/ 2.8000 526.00/ 0.0000 528.00/ 0.0000
530.00/ 0.0000 532.00/ 1.1000 534.00/ 0.0000 536.00/ 0.0000 538.00/ 3.6000
540.00/ 0.0000 542.00/ 1.6000 544.00/ 0.0000 546.00/ 0.0000 548.00/ 0.0000
550.00/ 0.0000 552.00/ 0.0000 554.00/ 0.0000 556.00/ 0.0000 558.00/ 0.0000
560.00/ 0.0000 562.00/ 0.0000 564.00/ 0.0000 566.00/ 0.0000 568.00/ 0.0000
570.00/ 0.0000 572.00/ 0.0000 574.00/ 0.0000 576.00/ 0.0000 578.00/ 0.0000
580.00/ 0.0000 582.00/ 0.0000 584.00/ 0.0000 586.00/ 0.0000 588.00/ 0.0000
590.00/ 0.0000 592.00/ 0.0000 594.00/ 1.5000 596.00/ 0.0000 598.00/ 0.0000
600.00/ 0.0000 602.00/ 0.0000 604.00/ 0.0000 606.00/ 0.0000 608.00/ 0.0000
610.00/ 0.0000 612.00/ 0.6000 614.00/ 0.0000 616.00/ 0.0000 618.00/ 0.0000
620.00/ 0.0000 622.00/ 0.0000 624.00/ 0.0000 626.00/ 0.0000 628.00/ 0.0000
630.00/ 0.0000 632.00/ 0.0000 634.00/ 0.0000 636.00/ 0.0000 638.00/ 0.0000
640.00/ 0.0000 642.00/ 0.0000 644.00/ 0.0000 646.00/ 0.8000 648.00/ 0.0000
650.00/ 0.0000 652.00/ 0.0000 654.00/ 7.2000 656.00/ 0.0000 658.00/ 2.4000

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*****
* Rainfall input summary from Runoff *
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Total rainfall for gage # 1 is 22.1933 mm

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#####
# Data Group Fl #
# Evaporation Rate (mm/day) #
#####

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JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

1

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*****
* CHANNEL AND PIPE DATA *
*****

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Input Sequen Number	NAMEG: Channel ID #	Drains to NGTO:	Channel Type	Width (m)	Length (m)	Invert Slope (m/m)	L Side Slope (m/m)	R Side Slope (m/m)	Intial Depth (m)	Max Depth (m)	Mann- ings "N"	Full Flow (cms)
1	101	102	Circular	0.8	114.7	0.0168	0.0000	0.0000	0.0	0.0	0.0100	2.10E+00
2	401	102	Circular	0.6	25.1	0.0308	0.0000	0.0000	0.0	0.0	0.0100	1.57E+00
3	102	103	Circular	0.8	34.2	0.0308	0.0000	0.0000	0.0	0.0	0.0100	2.85E+00
4	103	104	Circular	0.9	60.4	0.0133	0.0000	0.0000	0.0	0.0	0.0100	3.04E+00
5	104	105	Circular	0.9	144.4	0.0118	0.0000	0.0000	0.0	0.0	0.0100	2.87E+00
6	105	106	Circular	1.1	100.6	0.0167	0.0000	0.0000	0.0	0.0	0.0100	5.15E+00
7	106	107	Circular	1.2	30.2	0.0093	0.0000	0.0000	0.0	0.0	0.0100	5.48E+00
8	107	108	Circular	1.2	62.4	0.0100	0.0000	0.0000	0.0	0.0	0.0100	5.68E+00
9	301	302	Circular	0.5	116.9	0.0313	0.0000	0.0000	0.0	0.0	0.0100	7.35E-01
10	302	303	Circular	0.5	100.5	0.0286	0.0000	0.0000	0.0	0.0	0.0100	1.06E+00
11	501	303	Circular	0.5	59.4	0.0217	0.0000	0.0000	0.0	0.0	0.0100	9.22E-01

Ass2_wch.out											
12	303	304	Circular	0.8	189.1	0.0189	0.0000	0.0000	0.0	0.0	0.0100 2.23E+00
13	304	305	Circular	0.8	45.3	0.0081	0.0000	0.0000	0.0	0.0	0.0100 1.46E+00
14	305	108	Circular	0.9	62.4	0.0167	0.0000	0.0000	0.0	0.0	0.0100 3.41E+00
15	108	109	Circular	1.5	146.9	0.0083	0.0000	0.0000	0.0	0.0	0.0100 9.39E+00
16	109	110	Circular	1.7	152.9	0.0083	0.0000	0.0000	0.0	0.0	0.0100 1.21E+01
17	110	111	Circular	1.9	213.6	0.0061	0.0000	0.0000	0.0	0.0	0.0100 1.38E+01
18	601	602	Circular	0.8	222.3	0.0167	0.0000	0.0000	0.0	0.0	0.0100 2.70E+00
19	602	603	Circular	1.0	55.9	0.0112	0.0000	0.0000	0.0	0.0	0.0100 3.70E+00
20	603	111	Circular	1.0	40.2	0.0431	0.0000	0.0000	0.0	0.0	0.0100 7.26E+00
21	111	112	Circular	1.9	144.8	0.0097	0.0000	0.0000	0.0	0.0	0.0100 1.74E+01
22	112	113	Circular	1.9	155.4	0.0097	0.0000	0.0000	0.0	0.0	0.0100 1.84E+01
23	701	113	Circular	0.5	47.8	0.0549	0.0000	0.0000	0.0	0.0	0.0100 1.47E+00
24	113	114	Circular	2.1	106.1	0.0068	0.0000	0.0000	0.0	0.0	0.0100 2.09E+01
25	114	115	Circular	2.2	307.2	0.0068	0.0000	0.0000	0.0	0.0	0.0100 2.29E+01
26	115	116	Circular	2.3	67.0	0.0068	0.0000	0.0000	0.0	0.0	0.0100 2.51E+01
27	201	202	Circular	0.8	144.0	0.0143	0.0000	0.0000	0.0	0.0	0.0100 2.50E+00
28	202	203	Circular	0.8	72.8	0.0323	0.0000	0.0000	0.0	0.0	0.0100 3.76E+00
29	203	204	Circular	0.9	60.8	0.0111	0.0000	0.0000	0.0	0.0	0.0100 2.78E+00
30	801	204	Circular	0.8	145.0	0.0200	0.0000	0.0000	0.0	0.0	0.0100 2.30E+00
31	204	205	Circular	1.1	93.5	0.0111	0.0000	0.0000	0.0	0.0	0.0100 5.04E+00
32	205	206	Circular	1.2	240.0	0.0111	0.0000	0.0000	0.0	0.0	0.0100 5.99E+00
33	206	207	Circular	1.4	161.1	0.0105	0.0000	0.0000	0.0	0.0	0.0100 7.98E+00
34	207	208	Circular	1.5	258.3	0.0071	0.0000	0.0000	0.0	0.0	0.0100 8.69E+00
35	208	209	Circular	1.7	48.7	0.0142	0.0000	0.0000	0.0	0.0	0.0100 1.58E+01
36	209	116	Circular	1.7	50.9	0.0040	0.0000	0.0000	0.0	0.0	0.0100 8.40E+00
37	116	117	Trapezoid	3.2	40.2	0.0076	0.0500	0.0500	0.0	2.0	0.0100 5.43E+01
38	117	118	Trapezoid	3.2	111.8	0.0036	0.0500	0.0500	0.0	2.0	0.0100 3.74E+01

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 * SUBCATCHMENT DATA *

SUBCATCH- MENT NO.	CHANNEL OR INLET	WIDTH (M)	AREA (HA)	PERCENT IMPERV.	SLOPE (M/M)	RESISTANCE IMPERV.	FACTOR PERV.	DEPRES. IMPERV.	STORAGE(MM)		INFILTRATION RATE(MM/HR)		DECAY RATE (1/SEC)	GAGE NO.
											MAXIMUM	MINIMUM		
1	1001	101	300.00	8.46	58.00	0.0350	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
2	4001	401	230.00	5.87	58.00	0.0450	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
3	1002	102	100.00	5.87	58.00	0.0480	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
4	1003	103	240.00	4.25	58.00	0.0450	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
5	1004	104	500.00	12.22	58.00	0.0400	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
6	1005	105	250.00	8.42	58.00	0.0500	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
7	1006	106	0.00	0.01	58.00	0.0000	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
8	1007	107	220.00	3.04	58.00	0.0500	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
9	3001	301	250.00	3.44	58.00	0.0450	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
10	3002	302	100.00	0.93	58.00	0.0350	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
11	5001	501	300.00	7.69	58.00	0.0650	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
12	3003	303	300.00	6.15	58.00	0.0500	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
13	3004	304	120.00	1.25	58.00	0.0310	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
14	3005	305	300.00	2.06	58.00	0.0520	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
15	1008	108	130.00	0.65	58.00	0.0240	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
16	1009	109	400.00	10.36	58.00	0.0550	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
17	1010	110	450.00	14.65	58.00	0.0400	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
18	6001	601	700.00	23.35	58.00	0.0480	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
19	6002	602	0.00	0.01	58.00	0.0000	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
20	6003	603	0.00	0.01	58.00	0.0000	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
21	1011	111	330.00	1.74	58.00	0.0160	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
22	1012	112	300.00	5.67	58.00	0.0250	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1

Ass2_wch.out														
23	7001	701	450.00	10.52	58.00	0.0350	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
24	1013	113	250.00	7.28	58.00	0.0420	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
25	1014	114	260.00	5.67	58.00	0.0250	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
26	1015	115	100.00	0.81	58.00	0.0108	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
27	2001	201	500.00	23.55	58.00	0.0500	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
28	2002	202	350.00	1.86	58.00	0.0660	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
29	2003	203	0.00	0.01	58.00	0.0000	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
30	8001	801	450.00	15.99	58.00	0.0500	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
31	2004	204	400.00	5.14	58.00	0.0420	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
32	2005	205	300.00	5.38	58.00	0.0300	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
33	2006	206	700.00	18.78	58.00	0.0300	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
34	2007	207	600.00	11.57	58.00	0.0300	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
35	2008	208	80.00	0.65	58.00	0.0320	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
36	2009	209	0.00	0.01	58.00	0.0000	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
37	1016	116	400.00	3.27	58.00	0.0300	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1
38	1017	117	0.00	0.01	58.00	0.0540	0.012	0.050	1.500	10.500	162.50	9.50	0.00056	1

TOTAL NUMBER OF SUBCATCHMENTS... 38
 TOTAL TRIBUTARY AREA (HECTARES).. 236.60
 IMPERVIOUS AREA (HECTARES)..... 137.23
 PERVIOUS AREA (HECTARES)..... 99.37
 TOTAL WIDTH (METERS)..... 10360.00
 PERCENT IMPERVIOUSNESS..... 58.00

1

 * Arrangement of Subcatchments and Channel/Pipes *

Channel or Pipe			
101	No Tributary Channel/Pipes		
	Tributary Subareas.....	1001	
401	No Tributary Channel/Pipes		
	Tributary Subareas.....	4001	
102	Tributary Channel/Pipes...	101	401
	Tributary Subareas.....	1002	
103	Tributary Channel/Pipes...	102	
	Tributary Subareas.....	1003	
104	Tributary Channel/Pipes...	103	
	Tributary Subareas.....	1004	
105	Tributary Channel/Pipes...	104	
	Tributary Subareas.....	1005	
106	Tributary Channel/Pipes...	105	
	Tributary Subareas.....	1006	
107	Tributary Channel/Pipes...	106	
	Tributary Subareas.....	1007	
301	No Tributary Channel/Pipes		
	Tributary Subareas.....	3001	
302	Tributary Channel/Pipes...	301	
	Tributary Subareas.....	3002	
501	No Tributary Channel/Pipes		
	Tributary Subareas.....	5001	
303	Tributary Channel/Pipes...	302	501
	Tributary Subareas.....	3003	
304	Tributary Channel/Pipes...	303	
	Tributary Subareas.....	3004	
305	Tributary Channel/Pipes...	304	

	Tributary Subareas.....	3005	
108	Tributary Channel/Pipes...	107	305
	Tributary Subareas.....	1008	
109	Tributary Channel/Pipes...	108	
	Tributary Subareas.....	1009	
110	Tributary Channel/Pipes...	109	
	Tributary Subareas.....	1010	
601	No Tributary Channel/Pipes		
	Tributary Subareas.....	6001	
602	Tributary Channel/Pipes...	601	
	Tributary Subareas.....	6002	
603	Tributary Channel/Pipes...	602	
	Tributary Subareas.....	6003	
111	Tributary Channel/Pipes...	110	603
	Tributary Subareas.....	1011	
112	Tributary Channel/Pipes...	111	
	Tributary Subareas.....	1012	
701	No Tributary Channel/Pipes		
	Tributary Subareas.....	7001	
113	Tributary Channel/Pipes...	112	701
	Tributary Subareas.....	1013	

1

 * Arrangement of Subcatchments and Channel/Pipes *

Channel
or Pipe

114	Tributary Channel/Pipes...	113	
	Tributary Subareas.....	1014	
115	Tributary Channel/Pipes...	114	
	Tributary Subareas.....	1015	
201	No Tributary Channel/Pipes		
	Tributary Subareas.....	2001	
202	Tributary Channel/Pipes...	201	
	Tributary Subareas.....	2002	
203	Tributary Channel/Pipes...	202	
	Tributary Subareas.....	2003	
801	No Tributary Channel/Pipes		
	Tributary Subareas.....	8001	
204	Tributary Channel/Pipes...	203	801
	Tributary Subareas.....	2004	
205	Tributary Channel/Pipes...	204	
	Tributary Subareas.....	2005	
206	Tributary Channel/Pipes...	205	
	Tributary Subareas.....	2006	
207	Tributary Channel/Pipes...	206	
	Tributary Subareas.....	2007	
208	Tributary Channel/Pipes...	207	
	Tributary Subareas.....	2008	
209	Tributary Channel/Pipes...	208	
	Tributary Subareas.....	2009	
116	Tributary Channel/Pipes...	115	209
	Tributary Subareas.....	1016	
117	Tributary Channel/Pipes...	116	
	Tributary Subareas.....	1017	

```

INLET
118      Tributary Channel/Pipes... 117
        No Tributary Subareas.....

```

```

*****
* Hydrographs will be stored for the following 1 INLETS *
*****
118

```

```

*****
* Quality simulation not included in this run *
*****

```

```

*****
* DATA GROUP M1 *
*****

```

```

TOTAL NUMBER OF PRINTED GUTTERS/INLETS...NPRNT..      1
NUMBER OF TIME STEPS BETWEEN PRINTINGS...INTERV...    20
STARTING AND STOPPING PRINTOUT DATES.....            0      0

```

```

*****
* DATA GROUP M3 *
*****

```

```

CHANNEL/INLET PRINT DATA GROUPS..... 118

```

```

*****
* Precipitation Interface File Summary *
* Number of precipitation station.... 1 *
*****

```

```

Location Station Number
-----
1.          1

```

```

1
*****
* Summary of Quantity and Quality results for *
* April 1989 *
*****

```

Day	Inlet	Rain mm	Flow mm
23	118	22.19	11.349
Total	118	22.19	11.349
Year	118	22.19	11.349

```
*****
*      End of time step DO-loop in Runoff      *
*****
```

```
Final Date (Mo/Day/Year)   =          4/23/89
Total number of time steps =          2910
Final Julian Date   =          89113
Final time of day   =          82800. seconds.
Final time of day   =          23.00 hours.
Final running time   =          23.0000 hours.
Final running time   =          0.9583 days.
```

```
*****
*      Extrapolation Summary for Watersheds      *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls      *
*****
```

Subcatch	# Steps	# Calls	Subcatch	# Steps	# Calls	Subcatch	# Steps	# Calls
1001	15645	5215	4001	15621	5207	1002	15723	5241
1003	15174	5054	1004	15621	5207	1005	15645	5215
1006	23597	5679	1007	14712	4892	3001	14803	4925
3002	14305	4739	5001	15413	5135	3003	15303	5093
3004	14625	4863	3005	13826	4378	1008	13938	4426
1009	15525	5175	1010	15651	5217	6001	15645	5215
6002	23597	5679	6003	23597	5679	1011	14098	4606
1012	15615	5205	7001	15621	5207	1013	15639	5213
1014	15633	5211	1015	15086	5018	2001	15687	5229
2002	13528	4156	2003	23597	5679	8001	15651	5217
2004	14735	4901	2005	15444	5148	2006	15645	5215
2007	15534	5178	2008	14198	4670	2009	23597	5679
1016	14229	4699	1017	23597	5679			

```
*****
*      Extrapolation Summary for Channel/Pipes      *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of GUTNR Calls      *
*****
```

Chan/Pipe	# Steps	# Calls	Chan/Pipe	# Steps	# Calls	Chan/Pipe	# Steps	# Calls
101	8075	2653	401	9560	2644	102	9314	2662
103	8384	2664	104	8133	2671	105	8215	2673
106	8866	2602	107	8414	2678	301	7771	2537
302	7953	2571	501	8206	2618	303	8061	2655
304	8472	2656	305	8399	2657	108	8375	2689
109	8242	2698	110	8294	2718	601	8025	2663
602	8071	2593	603	8876	2592	111	8435	2721
112	8457	2727	701	8959	2645	113	8482	2734
114	8518	2762	115	8797	2763	201	8068	2664
202	8440	2664	203	8088	2596	801	8069	2655
204	8216	2672	205	8189	2691	206	8202	2698
207	8228	2720	208	8967	2721	209	8242	2650
116	9569	2775	117	8338	2726			

1

```
*****
*      Continuity Check for Surface Water      *
*****
```

	cubic meters	Ass2_wch.out Millimeters over Total Basin
Total Precipitation (Rain plus Snow)	5.250828E+04	22.193
Total Infiltration	2.169823E+04	9.171
Total Evaporation	3.424555E+03	1.447
Surface Runoff from Watersheds	2.682146E+04	11.336
Total Water remaining in Surface Storage	5.468154E+02	0.231
Infiltration over the Pervious Area...	2.169823E+04	21.836

Infiltration + Evaporation + Surface Runoff + Snow removal + Water remaining in Surface Storage + Water remaining in Snow Cover.....	5.249105E+04	22.186
Total Precipitation + Initial Storage.	5.250828E+04	22.193

The error in continuity is calculated as

```

*****
* Precipitation + Initial Snow Cover *
*   - Infiltration -                 *
*Evaporation - Snow removal -       *
*Surface Runoff from Watersheds -   *
*Water in Surface Storage -         *
*Water remaining in Snow Cover      *
*-----*
* Precipitation + Initial Snow Cover *
*****
Error..... 0.033 Percent

```

 * Continuity Check for Channel/Pipes *

	cubic meters	Millimeters over Total Basin
Initial Channel/Pipe Storage.....	0.000000E+00	0.000
Final Channel/Pipe Storage.....	0.000000E+00	0.000
Surface Runoff from Watersheds.....	2.682146E+04	11.336
Groundwater Subsurface Inflow.....	0.000000E+00	0.000
Evaporation Loss from Channels.....	1.014796E+00	0.000
Channel/Pipe/Inlet Outflow.....	2.685027E+04	11.349
Initial Storage + Inflow.....	2.682146E+04	11.336
Final Storage + Outflow.....	2.685128E+04	11.349

* Final Storage + Outflow + Evaporation - *		
* Watershed Runoff - Groundwater Inflow - *		
* Initial Channel/Pipe Storage *		
* ----- *		
* Final Storage + Outflow + Evaporation *		

Error.....	0.111 Percent	

1

SUMMARY STATISTICS FOR SUBCATCHMENTS
 =====

	PERVIOUS AREA		IMPERVIOUS AREA	TOTAL SUBCATCHMENT AREA	
TOTAL	TOTAL	PEAK	PEAK	PEAK	PEAK

Ass2_wch.out												
SUBCATCH- MENT NO.	GUTTER OR INLET NO.	AREA (HA)	PERCENT IMPER.	SIMULATED RAINFALL (MM)	RUNOFF DEPTH (MM)	TOTAL LOSSES (MM)	RUNOFF RATE (CMS)	RUNOFF DEPTH (MM)	RUNOFF RATE (CMS)	RUNOFF DEPTH (MM)	RUNOFF RATE (CMS)	UNIT RUNOFF (MM/HR)
1001	101	8.46	58.0	22.19	0.000	22.193	0.00	19.539	0.31	11.333	0.31	13.307
4001	401	5.87	58.0	22.19	0.000	22.193	0.00	19.555	0.23	11.342	0.23	14.489
1002	102	5.87	58.0	22.19	0.000	22.193	0.00	19.484	0.19	11.301	0.19	11.470
1003	103	4.25	58.0	22.19	0.000	22.193	0.00	19.582	0.19	11.358	0.19	16.257
1004	104	12.22	58.0	22.19	0.000	22.193	0.00	19.554	0.49	11.341	0.49	14.409
1005	105	8.42	58.0	22.19	0.000	22.193	0.00	19.539	0.31	11.333	0.31	13.311
1006	106	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000
1007	107	3.04	58.0	22.19	0.000	22.193	0.00	19.606	0.15	11.372	0.15	17.501
3001	301	3.44	58.0	22.19	0.000	22.193	0.00	19.602	0.16	11.369	0.16	17.315
3002	302	0.93	58.0	22.19	0.000	22.193	0.00	19.624	0.05	11.382	0.05	18.259
5001	501	7.69	58.0	22.19	0.000	22.193	0.00	19.569	0.33	11.350	0.33	15.386
3003	303	6.15	58.0	22.19	0.000	22.193	0.00	19.576	0.27	11.354	0.27	15.827
3004	304	1.25	58.0	22.19	0.000	22.193	0.00	19.610	0.06	11.374	0.06	17.662
3005	305	2.06	58.0	22.19	0.000	22.193	0.00	19.660	0.12	11.403	0.12	20.668
1008	108	0.65	58.0	22.19	0.000	22.193	0.00	19.655	0.04	11.400	0.04	20.141
1009	109	10.36	58.0	22.19	0.000	22.193	0.00	19.562	0.43	11.346	0.43	14.923
1010	110	14.65	58.0	22.19	0.000	22.193	0.00	19.533	0.52	11.329	0.52	12.896
6001	601	23.35	58.0	22.19	0.000	22.193	0.00	19.538	0.85	11.332	0.85	13.253
6002	602	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000
6003	603	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000
1011	111	1.74	58.0	22.19	0.000	22.193	0.00	19.637	0.09	11.389	0.09	18.784
1012	112	5.67	58.0	22.19	0.000	22.193	0.00	19.556	0.23	11.342	0.23	14.522
7001	701	10.52	58.0	22.19	0.000	22.193	0.00	19.552	0.41	11.340	0.41	14.293
1013	113	7.28	58.0	22.19	0.000	22.193	0.00	19.543	0.27	11.335	0.27	13.621
1014	114	5.67	58.0	22.19	0.000	22.193	0.00	19.546	0.22	11.336	0.22	13.778
1015	115	0.81	58.0	22.19	0.000	22.193	0.00	19.588	0.04	11.361	0.04	16.559
2001	201	23.55	58.0	22.19	0.000	22.193	0.00	19.510	0.77	11.316	0.77	11.845
2002	202	1.86	58.0	22.19	0.000	22.193	0.00	19.686	0.12	11.418	0.12	23.526
2003	203	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000
8001	801	15.99	58.0	22.19	0.000	22.193	0.00	19.535	0.57	11.330	0.57	13.025
2004	204	5.14	58.0	22.19	0.000	22.193	0.00	19.605	0.25	11.371	0.25	17.446
2005	205	5.38	58.0	22.19	0.000	22.193	0.00	19.567	0.23	11.349	0.23	15.243
2006	206	18.78	58.0	22.19	0.000	22.193	0.00	19.537	0.68	11.331	0.68	13.161
2007	207	11.57	58.0	22.19	0.000	22.193	0.00	19.561	0.47	11.346	0.47	14.882
2008	208	0.65	58.0	22.19	0.000	22.193	0.00	19.631	0.03	11.386	0.03	18.538
2009	209	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000
1016	116	3.27	58.0	22.19	0.000	22.193	0.00	19.628	0.17	11.384	0.17	18.422
1017	117	0.01	58.0	22.19	0.000	22.193	0.00	0.000	0.00	0.000	0.00	0.000

*** NOTE *** IMPERVIOUS AREA STATISTICS AGGREGATE IMPERVIOUS AREAS WITH AND WITHOUT DEPRESSION STORAGE

SUMMARY STATISTICS FOR CHANNEL/PIPES
=====

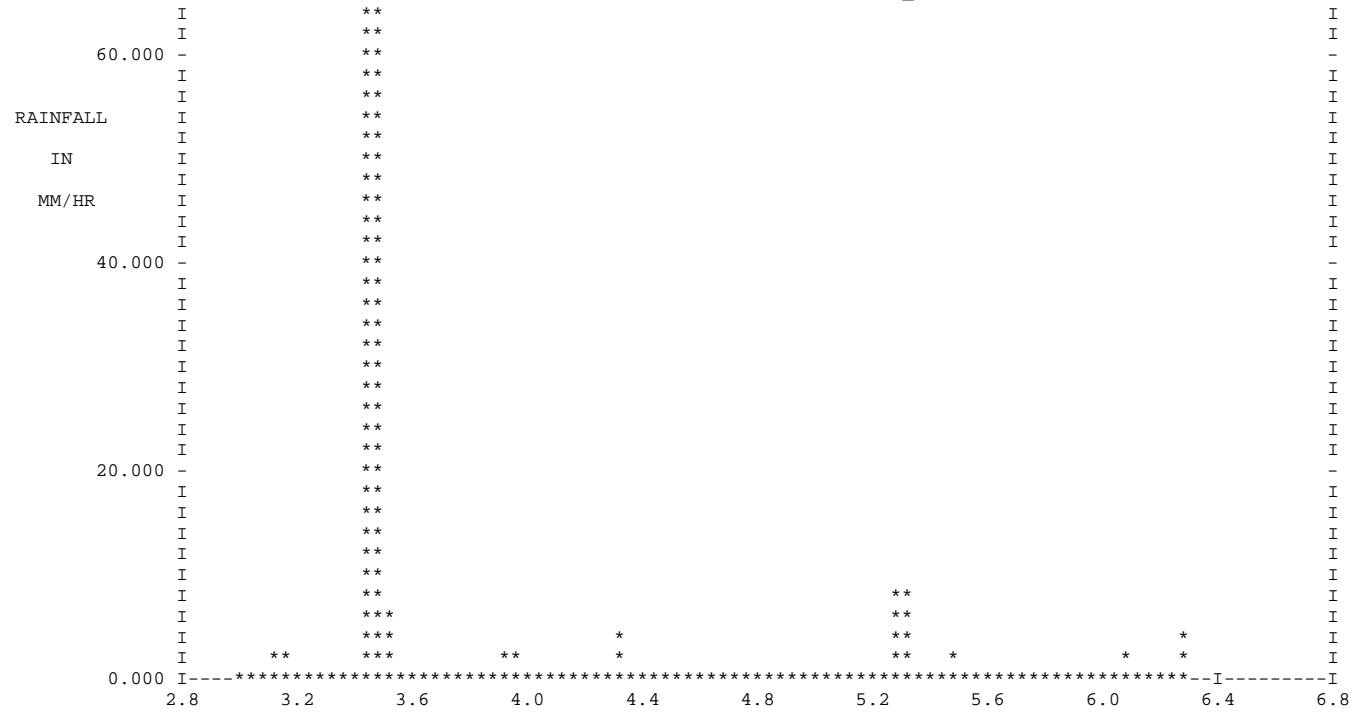
CHANNEL NUMBER	FULL FLOW (CMS)	FULL VELOCITY (M/S)	FULL DEPTH (M)	MAXIMUM COMPUTED INFLOW (CMS)	MAXIMUM COMPUTED OUTFLOW (CMS)	MAXIMUM COMPUTED DEPTH (M)	MAXIMUM COMPUTED VELOCITY (M/S)	TIME OF OCCURRENCE DAY HR.	LENGTH OF SURCHARGE (HOUR)	MAXIMUM SURCHARGE VOLUME (CU-M)	RATIO OF MAX. TO FULL FLOW	RATIO OF MAX. DEPTH TO FULL DEPTH
401	1.46	5.01	0.61	0.23	0.23	0.16	3.65	4/23/89 10.27	0.00	0.00000E+00	0.16	0.27
101	1.96	4.29	0.76	0.31	0.30	0.20	3.09	4/23/89 10.27	0.00	0.00000E+00	0.15	0.26
102	2.65	5.81	0.76	0.69	0.68	0.26	4.88	4/23/89 10.27	0.00	0.00000E+00	0.26	0.35
301	0.68	4.17	0.46	0.16	0.16	0.15	3.38	4/23/89 10.27	0.00	0.00000E+00	0.23	0.33

Ass2_wch.out													
103	2.83	4.31	0.91	0.86	0.86	0.34	3.78	4/23/89	10.27	0.00	0.00000E+00	0.30	0.38
501	0.86	3.84	0.53	0.33	0.32	0.22	3.55	4/23/89	10.27	0.00	0.00000E+00	0.37	0.42
302	0.98	4.41	0.53	0.20	0.20	0.16	3.45	4/23/89	10.27	0.00	0.00000E+00	0.20	0.30
104	2.66	4.06	0.91	1.32	1.28	0.45	4.02	4/23/89	10.27	0.00	0.00000E+00	0.48	0.49
303	2.08	4.55	0.76	0.78	0.74	0.32	4.17	4/23/89	10.27	0.00	0.00000E+00	0.36	0.41
105	4.79	5.36	1.07	1.56	1.55	0.42	4.78	4/23/89	10.28	0.00	0.00000E+00	0.32	0.39
304	1.36	2.98	0.76	0.80	0.79	0.42	3.09	4/23/89	10.27	0.00	0.00000E+00	0.58	0.55
106	5.10	4.37	1.22	1.55	1.55	0.46	3.83	4/23/89	10.28	0.00	0.00000E+00	0.30	0.38
201	2.33	4.22	0.84	0.77	0.76	0.33	3.78	4/23/89	10.67	0.00	0.00000E+00	0.33	0.39
305	3.17	4.83	0.91	0.88	0.87	0.33	4.13	4/23/89	10.27	0.00	0.00000E+00	0.28	0.36
107	5.29	4.53	1.22	1.66	1.65	0.47	4.00	4/23/89	10.28	0.00	0.00000E+00	0.31	0.38
202	3.50	6.34	0.84	0.83	0.83	0.28	5.20	4/23/89	10.66	0.00	0.00000E+00	0.24	0.33
601	2.51	4.56	0.84	0.85	0.79	0.32	4.04	4/23/89	10.27	0.00	0.00000E+00	0.31	0.39
108	8.73	4.79	1.52	2.54	2.50	0.56	4.13	4/23/89	10.29	0.00	0.00000E+00	0.29	0.37
801	2.14	4.68	0.76	0.57	0.55	0.26	3.92	4/23/89	10.27	0.00	0.00000E+00	0.26	0.35
203	2.58	3.94	0.91	0.83	0.83	0.36	3.51	4/23/89	10.67	0.00	0.00000E+00	0.32	0.39
602	3.44	4.24	1.02	0.79	0.79	0.33	3.44	4/23/89	10.27	0.00	0.00000E+00	0.23	0.32
109	11.25	5.10	1.68	2.83	2.79	0.57	4.23	4/23/89	10.29	0.00	0.00000E+00	0.25	0.34
204	4.69	4.57	1.14	1.55	1.55	0.45	4.10	4/23/89	10.67	0.00	0.00000E+00	0.33	0.40
603	6.75	8.33	1.02	0.79	0.78	0.23	5.56	4/23/89	10.28	0.00	0.00000E+00	0.12	0.23
110	12.87	4.70	1.87	3.21	3.14	0.63	3.88	4/23/89	10.30	0.00	0.00000E+00	0.24	0.34
205	5.57	4.77	1.22	1.74	1.71	0.46	4.20	4/23/89	10.67	0.00	0.00000E+00	0.31	0.38
111	16.22	5.93	1.87	3.92	3.89	0.62	4.87	4/23/89	10.30	0.00	0.00000E+00	0.24	0.33
206	7.42	5.02	1.37	2.33	2.30	0.52	4.43	4/23/89	10.67	0.00	0.00000E+00	0.31	0.38
701	1.36	6.11	0.53	0.41	0.41	0.20	5.33	4/23/89	10.27	0.00	0.00000E+00	0.30	0.37
112	17.12	6.01	1.90	4.04	4.02	0.63	4.91	4/23/89	10.30	0.00	0.00000E+00	0.23	0.33
207	8.08	4.43	1.52	2.69	2.62	0.60	3.95	4/23/89	10.68	0.00	0.00000E+00	0.32	0.39
113	19.40	5.42	2.13	4.50	4.49	0.70	4.41	4/23/89	10.32	0.00	0.00000E+00	0.23	0.33
208	14.72	6.67	1.68	2.63	2.63	0.48	5.05	4/23/89	10.68	0.00	0.00000E+00	0.18	0.29
114	21.30	5.55	2.21	4.66	4.63	0.70	4.44	4/23/89	10.34	0.00	0.00000E+00	0.22	0.32
209	7.81	3.54	1.68	2.63	2.63	0.67	3.19	4/23/89	10.69	0.00	0.00000E+00	0.34	0.40
115	23.31	5.68	2.29	4.66	4.65	0.69	4.43	4/23/89	10.34	0.00	0.00000E+00	0.20	0.30
116	54.27	8.22	2.00	7.19	7.19	0.49	4.56	4/23/89	10.70	0.00	0.00000E+00	0.13	0.24
117	37.35	5.66	2.00	7.19	7.17	0.63	3.54	4/23/89	10.70	0.00	0.00000E+00	0.19	0.31
118				7.2				4/23/89	10.70				

TOTAL NUMBER OF CHANNELS/PIPES = 39

*** NOTE *** THE MAXIMUM FLOWS AND DEPTHS ARE CALCULATED AT THE END OF THE TIME INTERVAL

1

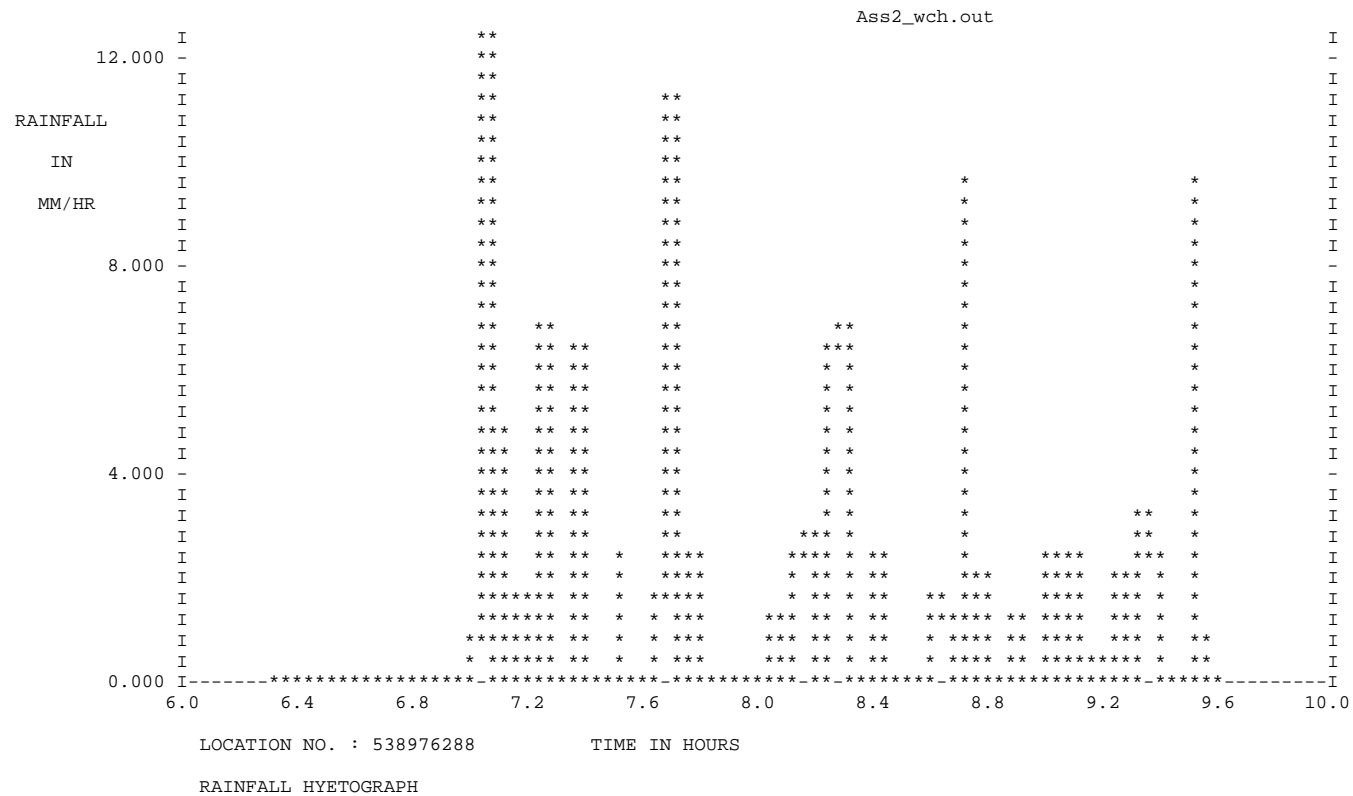


LOCATION NO. : 538976288

RAINFALL HYETOGRAPH

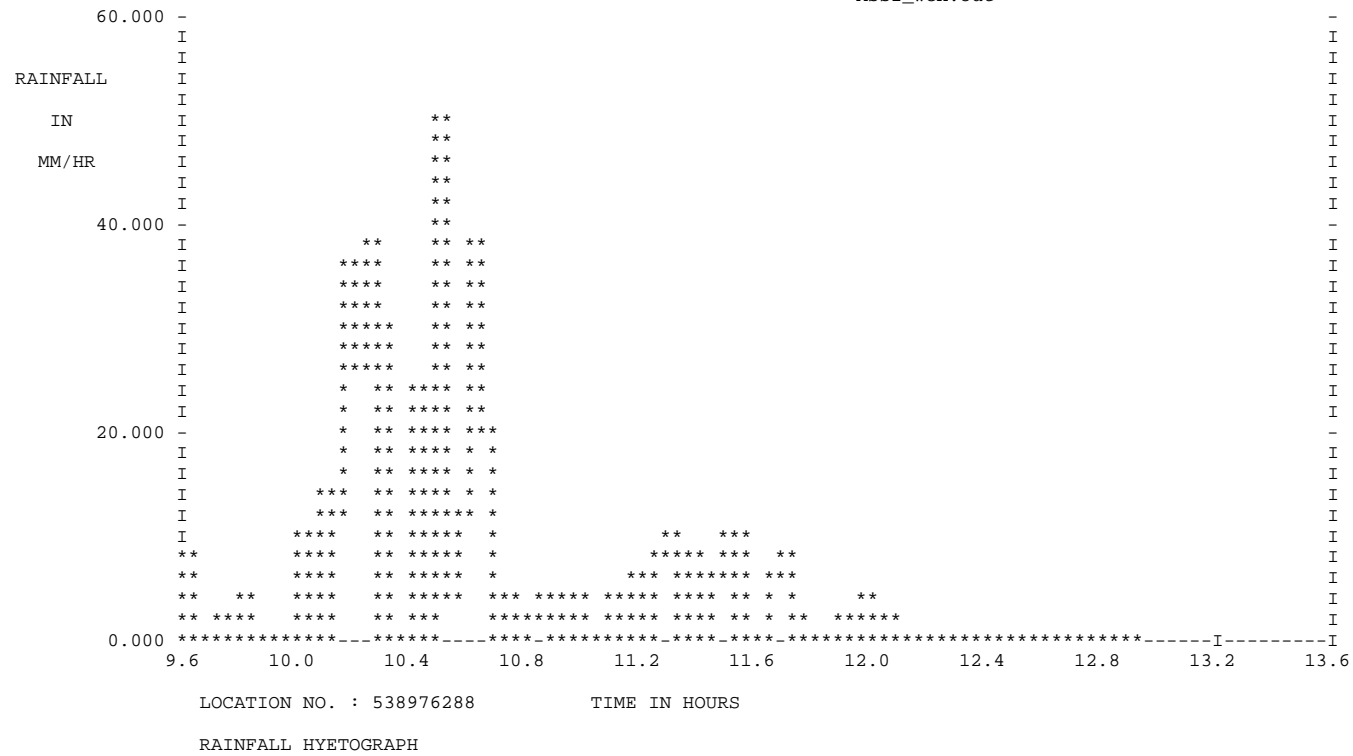
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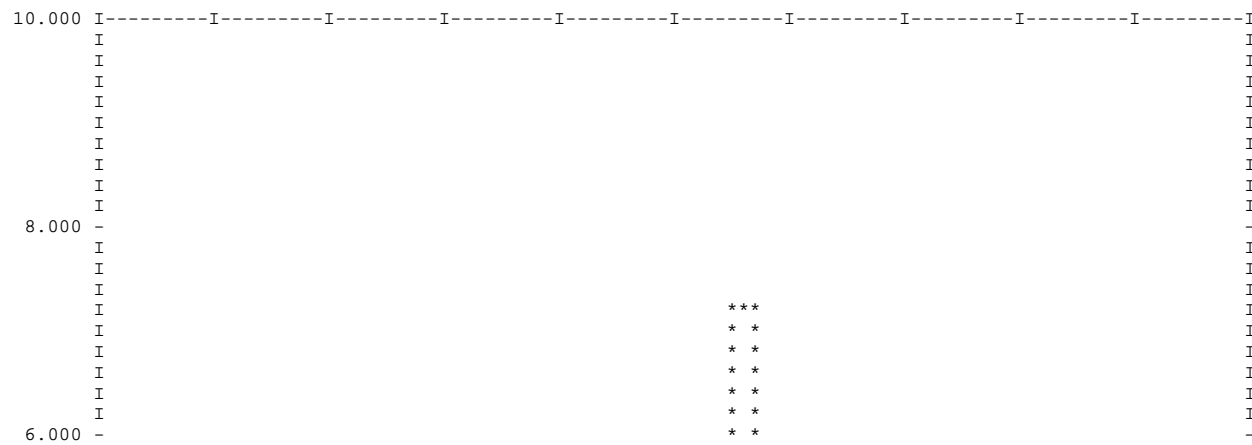


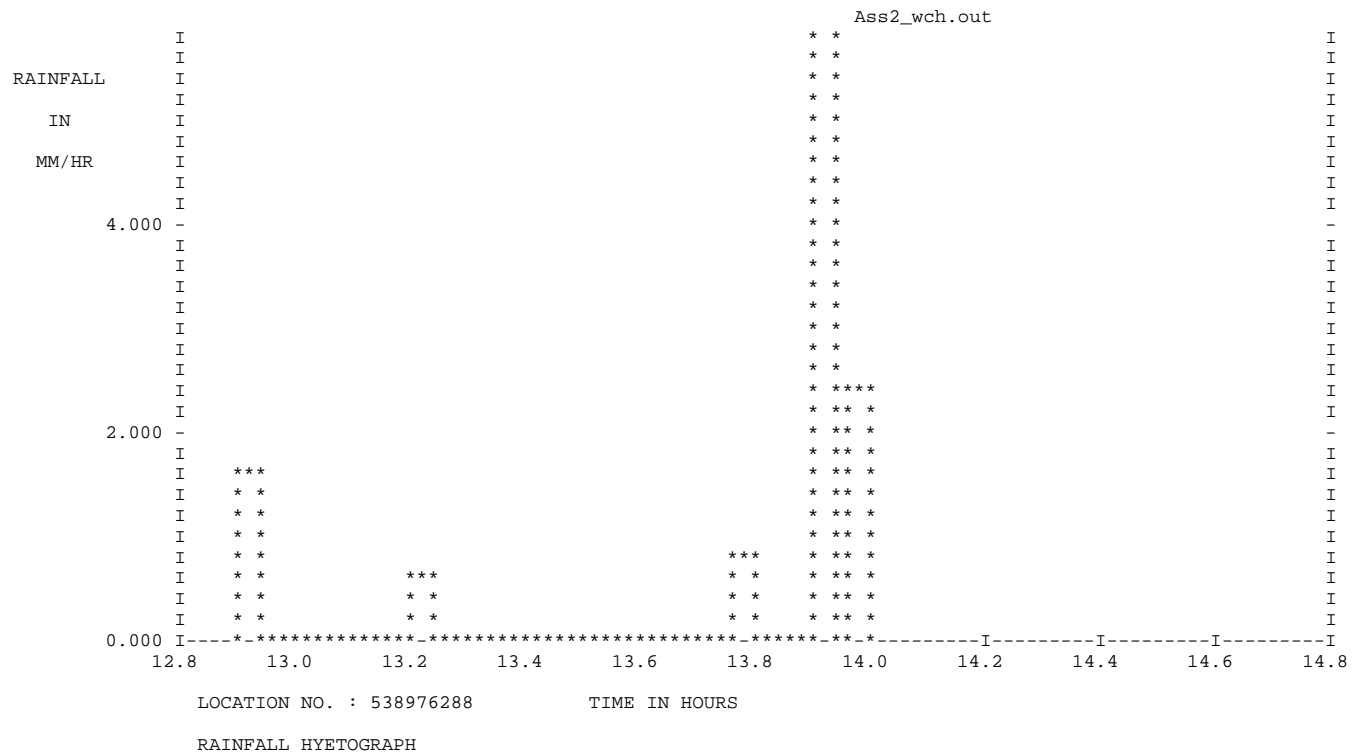
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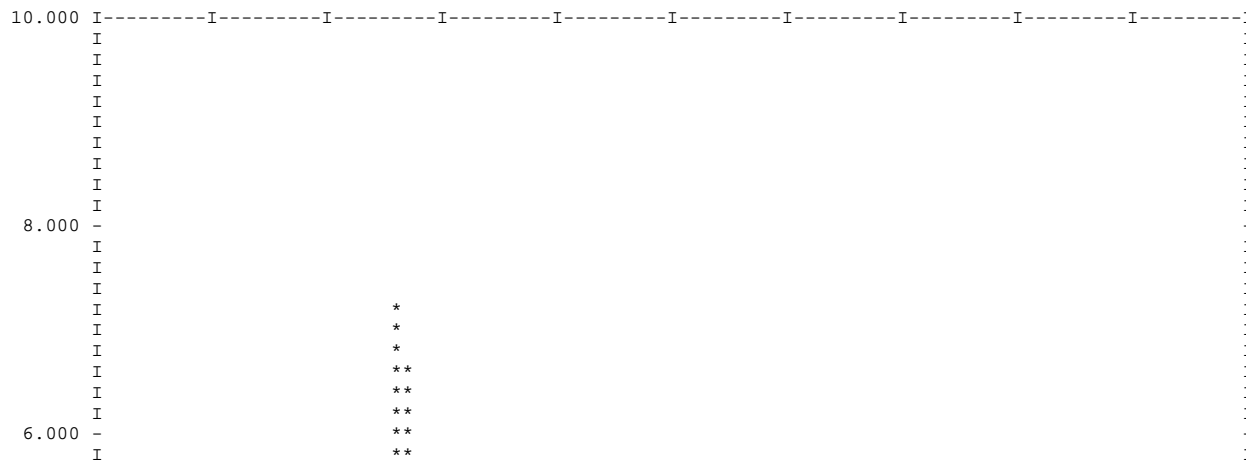


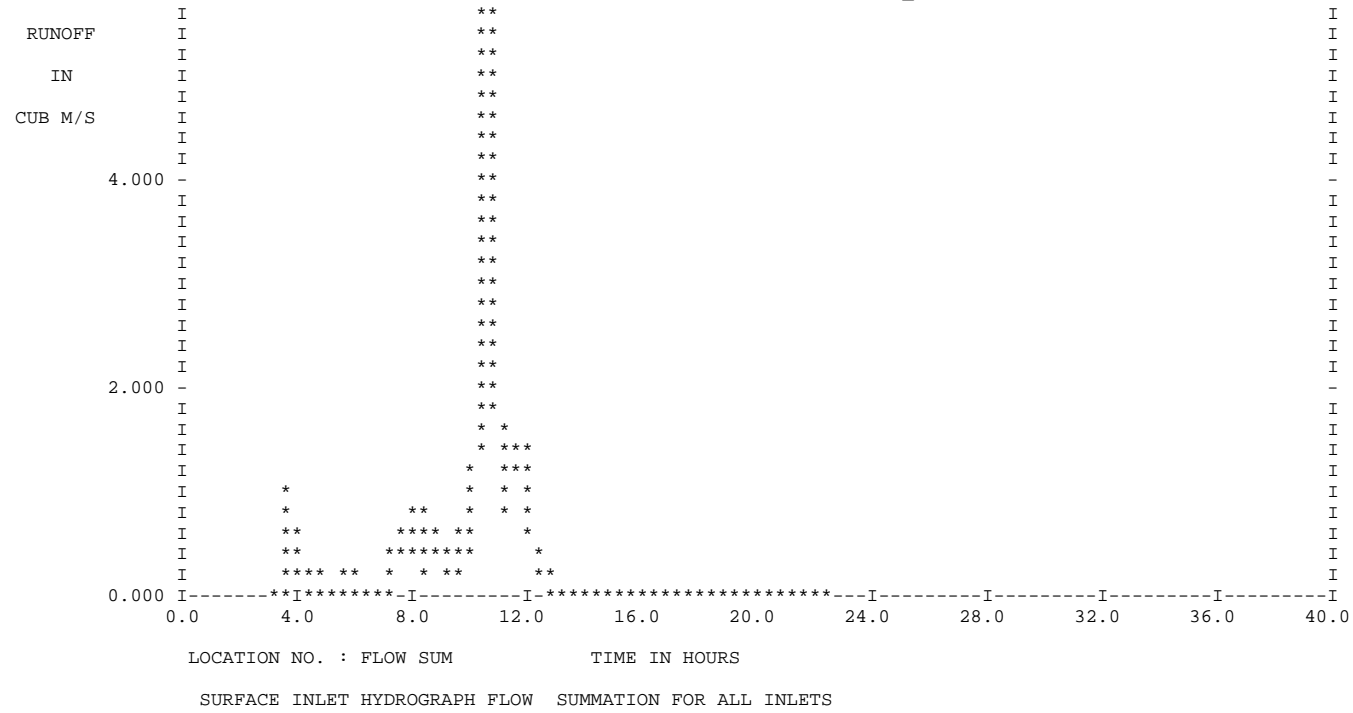
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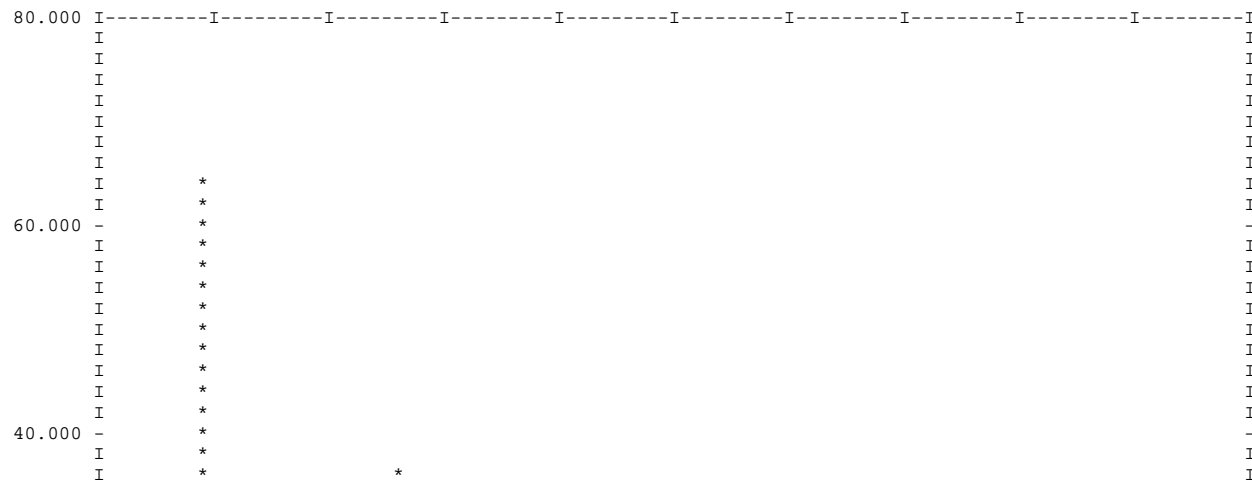


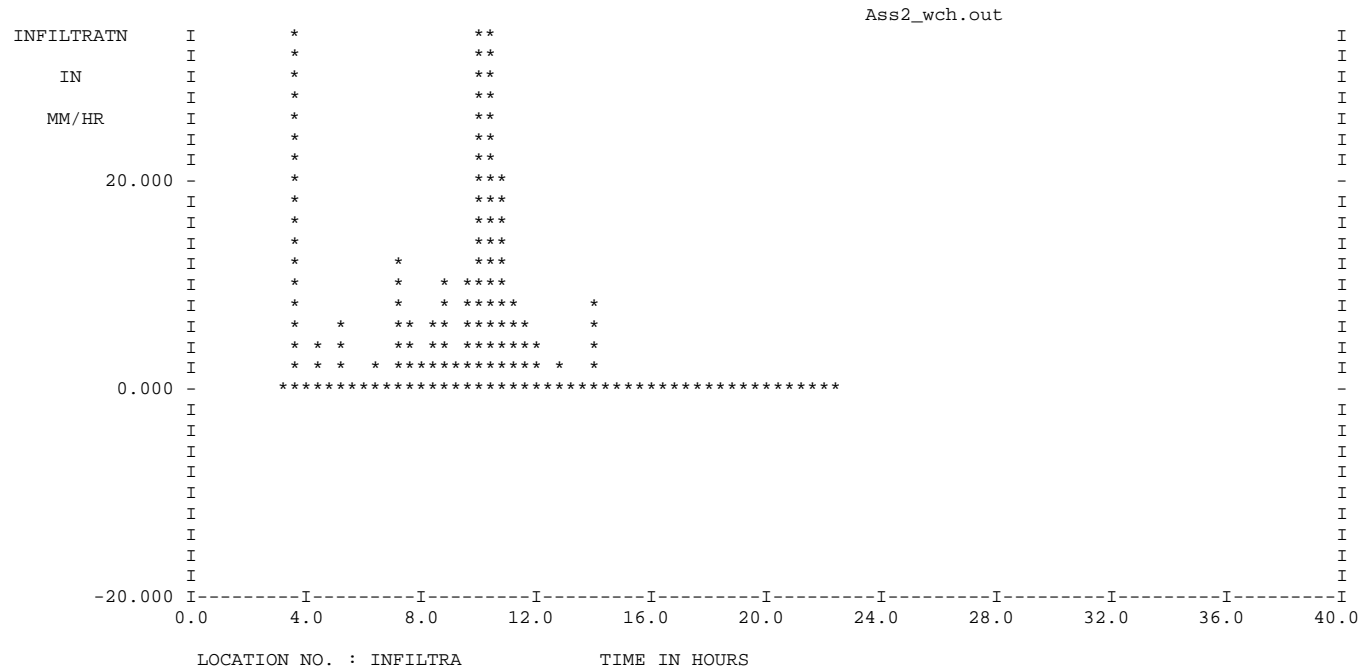
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PLOT OF INFILTRATION RATE

1

 * Summary of quantity results (flow in cms) *

APPLICATION OF STORM WATER MANAGEMENT MODEL (SWMM)
 POWELLS CREEK SIMULATION

		Chan/Inlt
		118
Mo/Da/Yr	Hr:Min	Cubic m/s
-----	-----	-----
4/23/89	3 30	0.029
4/23/89	3 35	0.789
4/23/89	3 40	1.062
4/23/89	3 45	0.755
4/23/89	3 50	0.523
4/23/89	3 55	0.377
4/23/89	4 0	0.285
4/23/89	4 5	0.232
4/23/89	4 10	0.192
4/23/89	4 15	0.157
4/23/89	4 20	0.127
4/23/89	4 25	0.119
4/23/89	4 30	0.122

4/23/89	4	35	0.119
4/23/89	4	40	0.106
4/23/89	4	45	0.089
4/23/89	4	50	0.073
4/23/89	4	55	0.059
4/23/89	5	0	0.048
4/23/89	5	5	0.039
4/23/89	5	10	0.032
4/23/89	5	15	0.026
4/23/89	5	20	0.022
4/23/89	5	25	0.030
4/23/89	5	30	0.059
4/23/89	5	35	0.096
4/23/89	5	40	0.117
4/23/89	5	45	0.113
4/23/89	5	50	0.097
4/23/89	5	55	0.080
4/23/89	6	0	0.065
4/23/89	6	5	0.052
4/23/89	6	10	0.044
4/23/89	6	15	0.039
4/23/89	6	20	0.038
4/23/89	6	25	0.044
4/23/89	6	30	0.053
4/23/89	6	35	0.057
4/23/89	6	40	0.055
4/23/89	6	45	0.048
4/23/89	6	50	0.041
4/23/89	6	55	0.033
4/23/89	7	0	0.027
4/23/89	7	5	0.026
4/23/89	7	10	0.086
4/23/89	7	15	0.277
4/23/89	7	20	0.462
4/23/89	7	25	0.519
4/23/89	7	30	0.538
4/23/89	7	35	0.497
4/23/89	7	40	0.421

1

 * Summary of quantity results (flow in cms) *

APPLICATION OF STORM WATER MANAGEMENT MODEL (SWMM)
 POWELLS CREEK SIMULATION

Date	Time	Chan/Inlt 118 Flow Cubic m/s
Mo/Da/Yr	Hr:Min	
4/23/89	7 45	0.474
4/23/89	7 50	0.700
4/23/89	7 55	0.700
4/23/89	8 0	0.540
4/23/89	8 5	0.401
4/23/89	8 10	0.315
4/23/89	8 15	0.291

4/23/89	8	20	0.409
4/23/89	8	25	0.698
4/23/89	8	30	0.732
4/23/89	8	35	0.587
4/23/89	8	40	0.449
4/23/89	8	45	0.397
4/23/89	8	50	0.501
4/23/89	8	55	0.547
4/23/89	9	0	0.468
4/23/89	9	5	0.382
4/23/89	9	10	0.344
4/23/89	9	15	0.316
4/23/89	9	20	0.286
4/23/89	9	25	0.276
4/23/89	9	30	0.297
4/23/89	9	35	0.363
4/23/89	9	40	0.524
4/23/89	9	45	0.642
4/23/89	9	50	0.599
4/23/89	9	55	0.564
4/23/89	10	0	0.492
4/23/89	10	5	0.492
4/23/89	10	10	0.926
4/23/89	10	15	3.377
4/23/89	10	20	7.114
4/23/89	10	25	5.759
4/23/89	10	30	4.762
4/23/89	10	35	6.654
4/23/89	10	40	6.547
4/23/89	10	45	6.021
4/23/89	10	50	3.390
4/23/89	10	55	2.151
4/23/89	11	0	1.574
4/23/89	11	5	1.253
4/23/89	11	10	1.005
4/23/89	11	15	0.852
4/23/89	11	20	0.992
4/23/89	11	25	1.192
4/23/89	11	30	1.206
4/23/89	11	35	1.434
4/23/89	11	40	1.461
4/23/89	11	45	1.407
4/23/89	11	50	1.292

1

 * Summary of quantity results (flow in cms) *

APPLICATION OF STORM WATER MANAGEMENT MODEL (SWMM)
 POWELLS CREEK SIMULATION

Date	Time	Chan/Inlt
Mo/Da/Yr	Hr:Min	Flow
-----	-----	-----
4/23/89	11 55	0.965
4/23/89	12 0	0.702

4/23/89	12	5	0.578
4/23/89	12	10	0.503
4/23/89	12	15	0.407
4/23/89	12	20	0.314
4/23/89	12	25	0.242
4/23/89	12	30	0.188
4/23/89	12	35	0.148
4/23/89	12	40	0.118
4/23/89	12	45	0.095
4/23/89	12	50	0.076
4/23/89	12	55	0.062
4/23/89	13	0	0.052
4/23/89	13	5	0.047
4/23/89	13	10	0.043
4/23/89	13	15	0.038
4/23/89	13	20	0.034
4/23/89	13	25	0.031
4/23/89	13	30	0.027
4/23/89	13	35	0.023
4/23/89	13	40	0.019
4/23/89	13	45	0.016
4/23/89	13	50	0.013
4/23/89	13	55	0.011
4/23/89	14	0	0.014
4/23/89	14	40	0.058
4/23/89	15	20	0.010
4/23/89	16	0	0.002
4/23/89	16	40	0.001
4/23/89	17	20	0.000
4/23/89	18	0	0.000
4/23/89	18	40	0.000
4/23/89	19	20	0.000
4/23/89	20	0	0.000

Flow wt'd means....	0.3729
Flow wt'd std-devs..	1.0411
Maximum value.....	7.1678
Minimum value.....	0.0000
Total loads.....	2.69E+04
	Cubic-m

==> Runoff simulation ended normally.

==> SWMM 4.40 simulation ended normally.
Always check output file for possible warning messages.

==> Your input file was named : Ass2.dat
==> Your output file was named: Ass2.wch

```
*****
*      SWMM 4.40 Simulation Date and Time Summary      *
*****
* Starting Date... September 16, 98                      *
* Time...          21:29:25:79                          *
* Ending Date...   September 16, 98                      *
* Time...          21:33:33:34                          *
* Elapsed Time...   4.133 minutes.                       *
* Elapsed Time...   248.003 seconds.                     *
*****
```

Ass2_wch.out